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SINO-SOVIET BLOC CIVIL AVIATION ACTIVITIES
IN AFRICA

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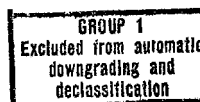
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This study presents a brief analysis of Sino-Soviet Bloc international air activities with particular emphasis on these activities in Africa. The study attempts to evaluate the Bloc air programs to determine if they represent normal commercial ventures or are part of a broader program of economic penetration based on political motivations.

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SECRET**SINO-SOVIET BLOC CIVIL AVIATION ACTIVITIES IN AFRICA****Trends and Conclusions**

The participation of the Sino-Soviet Bloc in international civil aviation has increased substantially in the past 4 years. The impact of the international expansion of Bloc civil aviation has been seen most dramatically in the newly established African states, where both the USSR and Czechoslovakia have achieved considerable success, particularly in the more receptive countries of Ghana, Guinea, and Mali. In addition to civil air agreements with these countries, both Czechoslovakia and the USSR have negotiated agreements with Egypt and Morocco. Czechoslovakia recently signed an agreement with Senegal, and the USSR has signed an agreement with Sudan. The USSR has also approached several other African states with a view to obtaining additional international air rights. The air rights which the Bloc has obtained in Africa and those it is currently negotiating reflect an apparent interest to extend Bloc air routes into both East and West Africa, and ultimately to Latin America.

The expansion of Bloc international air activities in these areas reflects political rather than purely commercial objectives. The USSR has demonstrated a willingness to operate economically unprofitable international routes. Although not insensitive to cost factors, the USSR undoubtedly places a higher value on the political gains to be realized by demonstrating the accomplishments of Soviet technology in the aviation field. The expansion of international air services could also provide opportunities for the more flexible conduct of subversive and disruptive tactics in target countries, and more controlled access by air of Bloc officials visiting these countries. The transport of technicians and high-priority cargo in Bloc aircraft, however, does defray a part of the cost of ventures that are primarily politically motivated.

The major emphasis of the Bloc program in Africa has been with the states of Ghana, Guinea, and Mali. The extensive aid rendered to these countries is undoubtedly intended to foster continuity in the economic dependence of these countries on the Bloc. It is also probable that these countries will be encouraged to establish an air consortium to compete with the Western-oriented consortium, Air Afrique.

The Soviet Bloc probably will use its newly acquired air rights in Africa to extend Bloc international air routes into Latin America. The prospects of operating Bloc routes to Latin America via Africa as a

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sound commercial basis are remote. A vast increase in trade and cultural relations with the area will be required to generate a revenue passenger load factor which would make such a route a paying proposition.

The routes presently obtained and those being sought by the Bloc do not give it any geographic advantage that would preclude effective competition from Western carriers. The desire of African states to pre-empt African routes for their own carriers plus their strong ties with established Western international carriers will also tend to limit the effectiveness of Soviet competition. However, the entry of Bloc carriers in an area already fairly well served by international carriers and with a relatively low traffic requirement may effectively preclude the entrance of carriers not already established in the area. This may serve to exclude US carriers who currently find it unprofitable to participate extensively in air service to and within the African continent.

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I. Introduction

The participation of the Sino-Soviet Bloc in international civil aviation has increased substantially in the past 4 years. The impact of the international expansion of Sino-Soviet Bloc civil aviation has been seen most dramatically in the newly established African states, where both the USSR and Czechoslovakia have achieved considerable success, particularly in the more receptive countries of Ghana, Guinea, and Mali. The air rights which the Bloc has obtained in Africa and those it is currently negotiating reflect an apparent interest to extend Bloc air routes into both East and West Africa, and ultimately to Latin America.

A. Negotiation of Air Rights and Agreements

After a period of initial expansion of its international air routes -- principally to countries in Western Europe -- the USSR for several years negotiated no new agreements. Between 1958 and December 1961, Bloc advances in international air transport, with particular reference to Africa and Latin America, were achieved principally by Czechoslovakia, the European satellite most active in acquiring the high-performance transports necessary for long-haul routes and also having the advantages accruing from membership in both the International Civil Aviation Organization (ICAO)* and the International Air Transport Association (IATA). By the end of 1961 Czechoslovakia had the longest international air system of any Bloc carrier and had negotiated air agreements with Egypt, Ghana, Guinea, Mali and Morocco. The negotiation of an air agreement with Cuba made Czechoslovakia the only Bloc country with a commercial air route to the western hemisphere. Both the Cuban route and an air agreement negotiated with Senegal provide Czechoslovakia with key points necessary for ultimate expansion into Latin America.

After a period of relative inactivity, the USSR in the past few months has intensified its efforts to expand its international air routes. Civil air agreements have recently been concluded with Ghana, Guinea, Mali, Morocco, and Sudan. In addition the USSR has approached such African states as Chad, Niger, Senegal, Tunisia, and Libya with a view to obtaining overflight or landing rights. The USSR also has shown a keen interest in negotiating air agreements with Brazil and Cuba.

Soviet plans appear to involve the use of Khartoum as a connecting point for both a West African and an East African route. The former route would link Khartoum to such points as Lagos, Accra, Conakry, Bamako, and Dakar, whereas the East African route would link Khartoum with points in Saudi Arabia, Ethiopia, the Somali Republic, and the Malagasy Republic (see the map).

* Under the terms of the ICAO convention and associated agreements, member states must grant upon demand transit and technical landing rights to other signatories of the convention.

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Figure 1

Soviet and Czechoslovak Civil Air Routes
to Asia, Africa, and Latin America

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B. Sales of Aircraft

The USSR and Czechoslovakia have carried on fairly active promotional programs to sell aircraft in the Free World. These programs have been rather resounding failures in the more advanced Western countries but the Bloc has been more successful in the African countries of Ghana, Guinea and Mali, and in India. A total of 36 transport aircraft have been sold to the African countries, as shown in Table 1. In each instance the aircraft were provided on long term credits with low interest rates, as integral parts of general economic assistance programs. The piston-type aircraft sold to Guinea and Mali appeared to be reasonably priced (\$180,000 for the used IL-14 model sold by the USSR; at least \$250,000 for the new IL-14's sold by Czechoslovakia; and around \$75,000 for the An-2 model). The high-performance transport aircraft were sold at prices of \$1.9 million for the IL-18 and more than \$2 million for the An-12. These latter prices are not significantly less than estimates of the current unit production costs of these aircraft. The prices are made even more attractive to potential customers, however, by the fact that the quoted selling prices include spare engines and parts, plus other extras, not included in the usual selling price of comparable Western aircraft. In a recent transaction, the basic selling price of the Lockheed Electra (comparable to the IL-18) was \$2.6 million plus \$93,000 for each spare engine.*

C. Technical Assistance Programs

Czechoslovakia and the USSR have extended considerable technical assistance to Ghana, Guinea, and Mali. These programs have involved the use of Bloc technicians in the recipient countries and the training of African nationals in both Prague and Moscow.

Czechoslovakia provides flight and ground servicing crews for Air Guinea's IL-14 aircraft and flight crews for Air Mali's DC-3 aircraft (acquired from the UK). In addition, Czechoslovakia provides airline management services and control tower personnel for both Air Guinea and Air Mali.

The USSR provides flight crews and ground servicing personnel for all the IL-18 aircraft owned by Ghana, Guinea, and Mali. Other significant technical assistance to the civil aviation of these three countries includes the construction by the Soviets of a jet landing

* For a discussion of additional financial aspects of Soviet international air activities in Africa, see Appendix B.

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Table 1

**Soviet Bloc Sales of Civil Aircraft to African Countries
(As of 1 June 1968)**

Units

Importing Country	USSR				Czechoslovakia		Total
	An-2	IL-14	An-12	IL-18	Ano-145	IL-14	
Ghana	0	0	1	0	0	0	1
Guinea	2	0	0	1	2	4	11
Mali	5	1	0	1	5	0	16
Total	7	1	1	1	7	4	16

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strip at Sverdlovsk, an agreement to establish a regional repair and overhaul base for high-performance transports at Samarkand, and an agreement to construct a rail connection from Bishkek to the Gorkum rail line at Khorog.

II. Profit Potential as a Soviet Bloc Criterion for Establishing International Civil Air Routes

Although the USSR and Czechoslovakia are fully conscious of the relative efficiencies of various exports and services as foreign exchange earners and are concerned with costs and revenues in the operation of international airlines, they have shown a general willingness to operate an economically unprofitable routes.

Soviet cost consciousness was reflected in the shortening of Aeroflot's international route mileage by about 10 percent through a combination of routes in 1961.* In spite of the improvement in operational efficiency that resulted from these actions, the Soviet average load factor in 1961 for all international routes was said by a high official of GIVV (Main Administration of the Civil Air Fleet) to be ridiculously low, his statement implying that it was well below 50 percent. The only international air service believed to be profitable during 1961 was the Moscow-New Delhi route. The Moscow-London service was also fairly well patronized but all other international routes apparently were operated at a loss.

Aeroflot did not hesitate, nevertheless, to add Bangkok and Djakarta to the Moscow-Delhi route in early 1962 even though there was no economic justification for this expansion. CSA (Czechoslovak Airlines), which had added service to Bangkok, Pnom Penh, and Djakarta to its Prague-Bangkok route, was already flying the Bangkok-Djakarta leg with no more than a 25 percent load factor (according to their traffic plan for October, November, December 1961). Following the inauguration of Soviet service between Bangkok and Djakarta, it is reliably reported that neither airline is achieving as much as a 20 percent load factor on the Indonesian service.

The prospects of Bloc airlines becoming efficient earners of foreign exchange on African air routes are not very bright. Most of the new African states have retained the arrangements with Western airlines for

* The decrease in route mileage was achieved principally by combining the route from Moscow to Stockholm with that from Moscow to Copenhagen; by combining the routes from Moscow and Leningrad to Helsinki; and by combining the routes from Moscow to Brussels and Amsterdam. In addition Budapest was eliminated as a stop on the Moscow-Vienna route, and Vienna was eliminated as a stop on the Moscow-Cairo route.

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the intercontinental air services that existed prior to independence. Those independent states that have not retained pre-existing arrangements have inaugurated their own intercontinental services. Moreover, transcontinental and regional services are also operated by subsidiaries of established Western European airlines and to some extent by recently formed national airlines of new African states. The operation of domestic and regional air services are jealously regarded by the African states as their prerogative right. It therefore appears that the new Bloc air services to Africa will be entering a transportation market relatively saturated with established carriers, and traffic will be limited largely to that moving intercontinentally between African and Bloc terminals.

If a great increase should occur in trade between the Bloc and the under-developed countries of Africa and South America, a sufficient stimulus might be given to business travel between those points to justify economically the establishment of scheduled Bloc air service to Africa and beyond to South America. Present trends in Soviet trade indicate, however, that the necessary increase in trade with these areas is unlikely to develop in the period to 1970 leaving communist accession to power in the major countries.

III. Commercial Considerations of Bloc Routes to Africa

The present and proposed Bloc air routes to Africa and Latin America give no apparent geographic advantage to the Bloc in its competition with non-Bloc carriers.

The existence of the firmly established trunk and inter-regional routes of European and African airlines will prevent the Soviet Bloc route system in Africa (existing and proposed) from becoming generally preclusive in any sense except with respect to traffic originating or terminating behind the boundaries of the Bloc. Even this traffic must be shared with the airlines of the countries with which the Bloc concludes bilateral air agreements. The Bloc airlines have obtained no tariff advantages over other airlines on international routes in Africa. Czechoslovakia is a member of ICAO and CSA must charge IATA rates on its international routes. The USSR does not belong to ICAO, but in its bilateral negotiations it has so far agreed to rates consistent with IATA tariffs.

In view of the relatively low traffic volumes and the fact that international and inter-regional traffic in Africa is largely monopolized by consortiums of African countries which have strong ties with some of the large European carriers, EC carriers have been reluctant to engage in

international services to and within Africa. This reluctance will probably be reinforced if Bloc airlines increase their participation in the African international routes. The added competition from Bloc airlines might tend to preclude increased US carrier participation in African air transport unless incentives in the form of special operating privileges or concessions could be obtained from African countries.

IV. Political Considerations of Bloc Routes to Africa

By their purchase of a large number of Bloc aircraft from the USSR and Czechoslovakia, the airlines of Ghana, Guinea, and Mali are becoming partially dependent on the Bloc for parts, technicians, and training. Mali has asked the USSR to establish a general repair and overhaul base at Bamako to divert flying Bloc-built aircraft to Prague or Moscow for major servicing. This base will also serve as a regional maintenance and repair center for the Bloc-built aircraft purchased by Ghana and Guinea, and for planes of Aeroflot that may need to be serviced while in the area.

Pending the completion of training of indigenous flight crews to operate high-performance aircraft such as the IL-18, which will require several years, these countries have been forced to rely on the use of Soviet and Czechoslovak crews.

The combined effect of the presence of Soviet high-performance aircraft in Africa, piloted by competent Russian fliers, maintained by Soviet mechanics and dispatched and controlled by Czechoslovak air traffic personnel, compares up for the Africans as a badge of the Bloc which reflects technical competence in one of the most advanced areas of scientific and economic effort.

Mali, Ghana, and Guinea already have demonstrated a high degree of receptivity toward Bloc-sponsored economic assistance programs. To the extent that Bloc sponsorship and encouragement of their ambitions in civil aviation is successful, the orientation of these countries toward the Soviet Bloc will be strengthened.

The acquisition of a large number of IL-18 high-performance aircraft by Ghana, Guinea, and Mali has not been without problems both for them and the USSR. The Soviet aircraft have been expensive to operate and these countries presently have no known routes on which they have been able to operate the IL-18 profitably. Air Mali, which owns three IL-18's, flies them on its Bamako-Paris and Bamako-Niamey routes with a once weekly frequency on each route. Ghana Airways has eight IL-18's and

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uses only a portion of this fleet in flying a once weekly service on the following three routes: Accra-Bamako-Paris-Zurich-Prague-Moscow, Accra-Kano-Cairo-Beirut, and Accra-Chartoum. Eight IL-18 aircraft are obviously in excess of Ghana Airways's needs. Ghana Airways originally had set its requirement for IL-18's at four aircraft; the other four IL-18's had been purchased originally for the Ministry of Defense which decided not to use them as military transports. Six of the eight IL-18's belonging to Ghana have not been flown for some time and, according to recent reports, are to be returned to Moscow for operation in Bloc countries, probably on lease from Ghana.

Air Guinea, owner of three IL-18 aircraft, has not yet established scheduled service with them and uses them only on occasional special flights to the Bloc. Guinea, moreover, has made no move to implement its recent air agreement with the USSR. With Ghana Airways already serving an Accra-Prague-Moscow route and Air Mali flying a Bamako-Paris route that apparently will soon be extended to Moscow, the establishment of air services by Air Guinea to Moscow could be justified for purposes of prestige only.

The inability of any of these African airlines to achieve profitable use of their inventory of IL-18's undoubtedly restricts the political gains the USSR may have anticipated when they sold the aircraft. A possible Soviet tactic, therefore, may be to preserve, if not increase, their political gains by encouraging the three African carriers to form a regional consortium. As a consortium it might be possible for them to establish a well equipped intra-continental airline that could serve an extensive African route system in competition with the Western-oriented consortium, Air Afrique.* A development of this nature, which already has been strongly urged by the Economic Commission of the Casablanca Powers, would, if successful, serve Soviet foreign policy well. It could be an effective means of competition against Air Afrique, and could also serve to demonstrate the efficacy of Soviet tutelage of new African states hoping to achieve prominence as international air carriers.

In addition to the considerations already discussed, the Bloc air ventures into Africa and Latin America may be designed to yield other political benefits. They would at a minimum show the Soviet and

* The eleven African states participating in this consortium are Chad, Central African Republic, Congo (Brazzaville), Gabon, Upper Volta, Niger, Ivory Coast, Senegal, Mauritania, Gambia, and Cameroon. The consortium is owned 6 percent by each participating country, 17 percent by Air France, and 17 percent by UAT (Union Aeronautique de Transport).

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Czechoslovak flag in many and new and impressive areas of the world. They also could offer better and more secure opportunities for the Bloc to carry on propaganda programs, to supply local Communist elements, and to carry out other disruptive measures. The URSR, for example, failed in its efforts to disrupt UN activities in the Congo principally because of its inability to airlift supplies and arms in the absence of transit and landing rights in Sudan.

V. Benefits to the Bloc from Extending its Proposed African Routes to Latin America

Presently, CSA and Cubans each fly one round trip per week on the Prague-Havana route, carrying all European Satellite and Soviet traffic to and from Cuba. In view of the present high level of Bloc trade with Cuba, this schedule is probably justified on economic grounds. Due to the large airline distances involved, however, the carrying of Bloc traffic to and from Latin America below the Amazon on this route probably would not be considered on any grounds if a route from Eastern Europe via Africa were available as an alternative (even if Cuba allowed beyond-rights to Latin America in competition with Cubans).

Soviet interest in a route to Brazil via Africa was announced by the head of Aeroflot, in an interview with Izvestiya on 9 June 1962, in which he discussed projected Soviet routes in Africa.

The present level of air traffic between Latin America and Europe, via Africa, is not high enough to cause Aeroflot to seek a Rio de Janeiro-Accra-Khartoum-Cairo-Moscow service on economic grounds alone. If there was any possibility of break-even operations on a Europe-Africa-Latin America route, and other considerations did not exist, it is likely that CSA, with its rights under ICAO, would have made an effort to inaugurate the service.

Lacking an economic motive, it appears likely that the Soviet interest in African routes to Latin America reflects an intention to use international aviation to promote the Soviet political offensive in Latin America. That such intentions might emerge at this time is not surprising. The production rate for high-performance aircraft is now sufficient to permit further expansion of international routes. A Soviet-controlled air route to Latin America would be very useful to support the subversive activities of Castro and to support the local communist parties in those underdeveloped Latin American countries whose populations contain sizable dissident elements.

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APPENDIX A

SELECTED CHARACTERISTICS OF BLOC AIRCRAFT SOLD TO AFRICAN COUNTRIES

<u>Type and Model</u>	<u>Engines</u>		<u>Number of Passengers</u>	<u>Payload (Pounds)</u>	<u>Takeoff Weight (Pounds)</u>	<u>Range (Nautical Miles)</u>	<u>Average Speed (Knots)</u>
	<u>Number</u>	<u>Designation</u>					
Piston							
An-2	1	ASH-62IR	7 to 8	2,700	11,550	405	110
Aero-145	2	M-332	3 to 4	700	3,300	810	140
IL-14	2	ASH-82T	18	3,600	36,300	1,280	140
IL-14M	2	ASH-82T	24	4,600	38,000	1,700	165
Turboprop							
An-12	4	AI-20	81 troops	22,000	119,000	1,600	335
IL-18	4	AI-20	73 to 111	29,400	134,000	2,890	342

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APPENDIX B

FINANCIAL ASPECTS OF BLOC CIVIL AVIATION ACTIVITIES IN AFRICA

In its program to extend Soviet Bloc influence over civil aviation developments in Africa, the Soviet Bloc, to date, has extended identifiable credits in the amount of \$36 million. The USSR extended \$31.5 million of these credits and the remainder was extended by Czechoslovakia. Most of these credits were associated with Bloc sales of civil air transports and associated programs for providing Bloc flight crews and ground personnel and the training of indigenous personnel. The other major programs sponsored by the Soviet Bloc were the \$2.1 million improvements to the airport at Conakry undertaken by the USSR, and the technical assistance provided to Guinea by Czechoslovakia to establish a national airline. The credits were apportioned as follows: Ghana, \$17 million; Guinea, \$10 million; and Mali, \$9 million.

The attraction in these African countries to Soviet rather than Western aircraft, particularly high-performance types, rests principally with the liberal terms of sale offered by the Bloc. In every sale to date the Bloc agreements have provided for long-term credits at low interest rates and the basic price has always been considerably lower than the price of comparable Western aircraft. The USSR, moreover, has included in its price liberal provisions of spare engines and spare parts, and, has provided Bloc personnel to operate and maintain the aircraft while native crews are trained -- in most cases -- at no cost to the purchaser. Western sellers, on the other hand, impose additional charges for spare engines and parts, and the use of US crews, although limited training of indigenous maintenance and flight personnel is usually provided at no charge. The Bloc also is able to effect immediate delivery of its aircraft whereas Western manufacturers have rather extended waiting periods before delivery.

The immediate cost advantage to the purchaser is seen, for example, in the purchase in 1960 by Ghana of 4 IL-14's at a price roughly equivalent to the cost of three Viscounts that Ghana had on order from the UK. As another illustration, the price to Ghana for an IL-14 with 4 spare engines of \$1,376,000 may be compared to the price to a South American carrier for a Lockheed Electra of \$2,640,000, plus \$93,000 for each spare engine. In the same transactions the terms of sale for Ghana called for repayment in eight annual installments with interest at 2.5 percent on the unpaid balance, whereas the terms to the South American carrier called for repayment in five annual installments with interest at 5 percent on the unpaid balance.

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The selling price of \$1,070,000 for an IL-18 and 4 spare engines represents about a 10 percent discount from estimates of the current unit cost of production of this aircraft without spare engines. The generous extras provided by the USSR tend, therefore, to make the selling price even more of a bargain. The apparent bargain price loses some of its attraction in the long-run, however, because of the disadvantages arising from the poor operational economy of the Soviet aircraft, the necessity for frequent replacement of engines and parts, and the high prices demanded by the USSR for replacement engines and parts. Measured in terms of operations and maintenance, superiority of Western aircraft makes it unquestionably more economical to purchase from Western manufacturers.

Apart from the assistance provided with aircraft sales, the Soviet Bloc has participated in only two civil aviation technical assistance programs -- the Soviet reconstruction of the Conakry airfield, and the Czechoslovak management program for Air Guinean. Neither of these programs has involved substantial financial commitments. The extension of the runway at Conakry from 5,900 to 9,500 feet is estimated to cost \$2.1 million, and the Czechoslovak management program is relatively inexpensive. There appears, moreover, to be no immediately foreseeable requirement for technical assistance in the countries the Bloc is trying to penetrate that would require substantial financial outlays. The projected regional repair base at Bamako, for example, will involve minimal expenditures because it will occupy facilities established by the French.

All of the countries that have concluded air agreements with the USSR and Czechoslovakia have airfields at their principal cities that can accommodate IL-18's, and with the exception of Bamako, all of these airfields can safely accommodate the Tu-154. If the Bloc should agree to extend the runways at Bamako to accommodate jet aircraft, the cost of this program would be about \$1.5 million (based on the costs of the extension at Conakry).*

All of these African airfields also have the basic navigational and landing aids required for handling low density traffic in good weather. Ghana, Guinea, Mali, and Sudan lack both OCA and ILS landing systems. Desert weather conditions at Khartoum make landing aids usually unnecessary. Conakry, however, has frequent rainstorms and probably should have some

* A recent report indicates that the French may have agreed to construct a jet landing strip at Bamako at an estimated cost of \$2.2 million.

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instrument landing system. There is less need for these systems in Ghana and Mali because of more favorable climate conditions. If traffic density were to increase substantially, the installation of instrument landing systems at these airfields might become desirable. It is estimated that the installation of adequate GCA or ILS facilities compatible with ICAO standards at any of these airfields would cost no more than \$150,000 for a GCA system, and \$110,000 for an ILS facility.

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